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10/586,994	03/20/2007	Teunis Abram Klijn	00307.0045.PCUS00	9248
32894	7590	04/28/2011	EXAMINER	
HOYNG MONEGIER LLP Rembrandt Tower 31st Floor Amstelplein 1 Amsterdam, 1096 HA NETHERLANDS			ROBINSON, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			1787	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

AMdocketing@hoyngmonegier.com
owend@hoyngmonegier.com
haitjemac@hoyngmonegier.com

Office Action Summary	Application No. 10/586,994	Applicant(s) KLIJN ET AL.	
	Examiner Elizabeth Robinson	Art Unit 1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-22 is/are pending in the application.
- 4a) Of the above claim(s) 10-18,20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3-1-2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 1, 2011 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

Newly submitted claim 22 is directed to an invention that lacks unity with the invention originally claimed for the following reasons:

Newly filed claim 22 and the originally filed claims do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Newly filed claim 22 and the originally filed claims lack unity of invention because even though the inventions of these groups require the technical feature of a coating composition comprising inorganic nanoparticles in an organic water borne coating composition, this technical feature is not a special technical feature as it does not make a contribution over the prior art in view of Rohrbaugh et al. (US 2003/0180466).

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Rohrbaugh (abstract) teaches coating compositions comprising a nanoparticle system that can provide anti-soil deposition (stain blocking). The nanoparticles can be hydrotalcite, which is one of the same inorganic nanoparticles used in the instant application and thus, would provide the same stain blocking as in the instant case. The coating composition (Paragraphs 251 and 271) can comprise the nanoparticles, an aqueous carrier medium and polymers (organic binder). Thus, the coating composition does not exhibit "special technical features".

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 22 is withdrawn from consideration as being directed to a nonelected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 1-7, 19 and 21 are currently being examined.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 2 claims that the nano-particles are anionic clays or layered double hydroxide (LDH) salts. The instant specification supports that the nano-particles can be anionic clays (of which layered double hydroxides, not layered double hydroxide salts are a subset thereof) (Page 6, line 10 through Page 8, line 15) or that the particles can be layered hydroxy salts (Page 9, lines 5-30). There does not appear

to be proper antecedent basis for the claimed subject matter that the nano-particles are layered double hydroxide salts.

Claim Rejections - 35 USC § 112

Claims 1-7, 19 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 adds the limitation that the coating composition prevents substances contained in the substrate from leaching into the coating composition. However, this appears to be broader than supported by the specification. The specification supports water soluble or extractable staining substances, but not the more broadly claimed substances, which would include non-water soluble or extractable staining substances. All other claims depend from claim 1 and thus, also fail to comply with the written description requirement.

Claims 1-7, 19 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear how the total amount of water borne organic polymeric binder can be 100% by weight of the coating composition based on the total

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weight of the water borne coating composition. The coating also requires 0.1 to 40 % by weight of inorganic nano-particles and can also include other components. At 100% by weight water borne organic binder, there would be no other components in the coating composition. Further, it is unclear whether the claimed coating weight percentage for the water borne polymeric binder is for the polymeric material alone or for the water and polymer of the water borne polymeric binder. All other claims depend from claim 1 and thus, are also rendered indefinite.

Claim 3 claims materials from which the layered double hydroxide is selected. However it is unclear if these materials are to be formed into a salt of claim 2 or if the claim instead should read “wherein the anionic clay is a layered double hydroxide and the layered double hydroxide is selected from the group consisting of ...”

Claims 19 and 21 refer to layered double hydroxides in the plural, while the claims from which these claims depend, claims 3 and 2 respectively refer to the layered double hydroxides in the singular. It is unclear if this means that there is more than one type of layered double hydroxide being claimed. If this was the case, these claims would fail to further limit the subject matter of the previous claims, since it would broaden the type of nano-particles claimed.

Claim 21 claims that the “layered double hydroxides is optionally modified with one or more dispersing agent”. It is unclear if this modification would be to the layered double hydroxide or the layered double hydroxide salt.

Claim Rejections - 35 USC § 102

Claims 1-7, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyata (US 4,710,551) in view of evidence provided by Bejoy (Hydrotalcite article) and evidence provided by Koyanagi et al. (US 3,669,946).

Regarding claims 1-4, Miyata (Column 1, lines 5-33) teaches an aqueous (water borne) suspension polymerized vinyl chloride copolymer that also contains a hydrotalcite compound. As evidenced by Bejoy (Page 57), hydrotalcite is inorganic anionic clay and has a layered structure with a crystal structure with positively charged layers (Box 1, Page 58) and is a layered double hydroxide (LDH). The average size of the hydrotalcite compound (Miyata, Column 3, line 67 through Column 4, line 3) is 0.01 to 1 micron (10-1000 nm) and thus, the particles are nanoparticles. Since the hydrotalcite compound is the same type of additive as in the instant application, it is a stain blocking agent to the same degree as in the instant application. The polymer can be a copolymer of vinyl acetate (Column 3, lines 17-30) and since it is polymerized as an aqueous suspension, it is a vinyl acetate copolymer dispersion. Thus, the polymer is a binder in the same manner as is a vinyl acetate copolymer of the instant application. The composition of Example 1 (Column 6, lines 20-39) meets the claimed weight percentages of the inorganic nano-particles and the polymeric binder. The use of the coating composition as a film-forming coating on a substrate that prevents substances contained in the substrate from leaching into the coating composition is an intended use of the coating composition. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in

order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claim 5, the composition can also comprise a filler (Column 5, line 12-27).

Regarding claim 6, the composition can have transparency (Column 2, lines 45-56) and thus, can be considered to be a clear coat composition.

Regarding claim 7, the composition (Column 5, lines 7-27) can also comprise suspension stabilizers at about 0.01 to about 3% by weight of the vinyl chloride monomer. Based off of the weight percentage of monomer which forms the polymer in Example 1, this provides for an amount of suspension stabilizer that meets the claimed weight percentage. The suspension stabilizers (Column 5, lines 7-11) are the conventional stabilizers taught in Column 1, lines 55-66. While these compounds are referred to as suspension stabilizers, as evidenced by Koyanagi (Column 1, lines 8-14) several of these compounds are considered to be dispersing agents for polyvinyl chloride suspension polymerization.

Regarding claims 19 and 21, Miyata (Column 4, lines 24-35) teaches that the hydrotalcite can be surface coated with colloidal silica or an anionic surface-active agent (dispersing agent). It is further, noted that since the modification is optional, the presence of the hydrotalcite without modification also meets these claims.

Claims 1-7, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Rohrbaugh et al. (US 2002/0028288) in view of evidence provided by Bejoy (Hydrotalcite article) and evidence provided by Campbell (US 5,853,809).

Regarding claims 1-4, 19 and 21, Rohrbaugh (abstract) teaches coating compositions comprising a nanoparticle system that can provide anti-soil deposition (stain blocking). The nanoparticles (Paragraph 53) can be hydrotalcite. As evidenced by Bejoy (Page 57), hydrotalcite is inorganic anionic clay and has a layered structure with a crystal structure with positively charged layers (Box 1, Page 58) and is a layered double hydroxide (LDH). The coating composition (Paragraph 252) can comprise the nanoparticles, an aqueous carrier medium (water borne) and polymers (organic binder). Since the modification of the LDH is optional, the presence of the nanoparticles meets the limitations of claims 19 and 21. The coating composition can comprise the nanoparticles at less than or equal to about 50% by weight of the coating composition (Paragraph 81). The coating composition can comprise adjunct materials at about 0.01 to about 99.99% by weight of the coating composition (Paragraph 91). The adjunct materials include polymers (organic binders) (Paragraph 252). The water borne coating can comprise polymeric materials adsorbed on the nanoparticles (Paragraph 116). The nanoparticles are dispersed in the water borne coating and thus, the polymer is a dispersion in the aqueous carrier medium. The polymer can be a polymer formed from monomers of (meth)acrylate esters of fluorinated alkyl groups (acrylic polymers). As evidenced by Campbell (Column 1, line 37 through Column 2, line 40), acrylic polymers are film forming binders. The use of the coating composition as a film-forming coating

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on a substrate that prevents substances contained in the substrate from leaching into the coating composition is an intended use of the coating composition. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claim 5, the coating can also comprise additives including many of the additives of the instant claim (Paragraph 252).

Regarding claim 6, the water borne coating can be a clear coat composition (Paragraph 264).

Regarding claims 7, 19 and 21, the coating composition can also comprise a dispersing agent at about 0.01 to about 5% by weight of the coating composition (Paragraphs 70, 88, and 89).

Response to Arguments

Applicant's arguments filed March 1, 2011 have been fully considered but they are not persuasive.

Applicant argues that Rohrbaugh et al. (US 2002/0028288) does not disclose that the coating composition can prevent substances contained in the substrate from leaching into the coating composition as required by amended claim 1 and new claim 22. However, claim 22 was withdrawn from consideration, since applicant has received an action on the merits for the originally presented invention; this invention has been

constructively elected by original presentation for prosecution on the merits.

Accordingly, claim 22 was withdrawn from consideration as being directed to a nonelected invention. Claim 1 is directed to a coating composition. The use of the coating composition as a film-forming coating on a substrate that prevents substances contained in the substrate from leaching into the coating composition is an intended use of the coating composition. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant argues that Rohrbaugh does not require a binder and that the polymeric material is not necessarily a binder. However, Rohrbaugh teaches that the coating composition can comprise adjunct materials at about 0.01 to about 99.99% by weight of the coating composition (Paragraph 91). The adjunct materials include polymers (organic binders) (Paragraph 252). The water borne coating can comprise polymeric materials adsorbed on the nanoparticles (Paragraph 116). The nanoparticles are dispersed in the water borne coating and thus, the polymer is a dispersion in the aqueous carrier medium. The polymer can be a polymer formed from monomers of (meth)acrylate esters of fluorinated alkyl groups (acrylic polymers). As evidenced by Campbell (US 5,853,809) (Column 1, line 37 through Column 2, line 40), acrylic polymers are film forming binders.

Applicant argues that the Example composition of Rohrbaugh is with a synthetic hectorate clay. However, “applicant must look to the whole reference for what it

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teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others.” In re Courtright, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967).

Rohrbaugh teaches that the nanoparticles (Paragraph 53) can be hydrotalcite. When a species is clearly named, the species claim is anticipated no matter how many other species are additionally named. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990) MPEP 2131.02.

Applicant argues that the Examiner has not provided rationale for the polymer material of Rohrbaugh attaching to the surface, instead of being taken inside the particle. The rationale is based on the wording used by Rohrbaugh which was adsorbed, not absorbed. As evidenced by the Oxford English Dictionary definition of the term “adsorption”, this term means that the substance adheres to the surface of the material.

Applicant argues that the Rohrbaugh reference is concerned with a different problem than in the instant case. However, elected instant claims are directed to a coating composition and the Examiner maintains that the composition of Rohrbaugh meets the claimed limitations.

Applicant argues that the coating composition provides surprising and unexpected results. With respect to the anticipation rejection of the claims using Rohrbaugh, as cited in MPEP 706.02(b), it is noted that a rejection based on 35 USC 102(b), can only be overcome by (a) persuasively arguing that the claims are patentably distinguishable from the prior art, (b) amending the claims to patentably distinguish over

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the prior art, or (c) perfecting priority under 35 USC 119(e) or 120. As can be seen, comparative data is not sufficient to overcome an anticipatory rejection under 102(b).

Regarding Applicant's request for a telephonic interview, in order to act on the application in a timely manner, this Office Action is being set forth. Should Applicant desire a telephonic interview to discuss specific issues, the Attorney is welcome to telephone the Examiner to set up a time for an interview.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./
Elizabeth Robinson
Examiner, Art Unit 1787

April 22, 2011

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1787